CLAIM AMENDMENTS

Please replace claims 1, 2, 3, 6, 9, 10, 13, 14, 15, and 18 with the following amended claims:

1 (Currently Amended).   A method for comparing and matching a first set of digital data to at least a second set of digital data, comprising:

using a ~~graphics rasterizer~~ computer graphics card for raster transforming at least one of the first set of digital data and the second set of digital data;

depending upon the results of a pixel acceptance test performed by an acceptance tester included in the computer graphics card, accumulating statistical information for each of the first set of digital data and the second set of digital data using a statistical processor included in the computer graphics card; and

using the statistical information for each of the first set of digital data and the second set of digital data for statistically comparing and matching the raster transformed sets of digital data to appropriately corresponding portions of each other using the statistical processor.

2 (Currently Amended).   The method of claim 1, further comprising using the statistical processor for analyzing the statistical comparisons and using the computer graphics card for generating new transformations for matching the sets of data.

3 (Currently Amended).   The method of claim 1, further comprising using the statistical processor for statistically comparing the raster transformed sets of digital data until a match or non-match between the first and second sets of data is achieved.

4 (Original).   The method of claim 1, wherein the raster transforming comprises raster transforming at least one of the first or the second set of digital data and computing statistics on the transformation.

5 (Original).   The method of claim 4, wherein statistically comparing and matching comprises analyzing the computed statistics of the transformation and calculating new and different transformations on the digital data.

6 (Currently Amended).   A method for comparing and matching a first set of digital data to at least a second set of digital data, comprising:

loading at least one of the first and second sets of digital data into a first memory device;

using a 3D graphics rendering device for rendering model transformations and accumulating statistics of the loaded digital data, said 3D graphics rendering device modified to include a statistical processor;

adjusting the model transformations based on the accumulated statistics; and

statistically comparing and matching the model transformations of the loaded set of digital data to appropriately corresponding portions of the other set of digital data.

7 (Original).   The method of claim 6, further comprising statistically comparing the sets of digital data until a match or non-match between the first and second sets of data is achieved.

8 (Previously Amended).   The method of claim 6, wherein adjusting the model transformations comprises analyzing the statistical comparisons and generating new transformations for matching the sets of data.

9 (Currently Amended).   A system for tracking digital templates of a digital scene defined by plural images, comprising:

a computer graphics card including a raster processor that transforms at least one of the templates;

a statistics enable switch included in the computer graphics card, wherein accumulation of information for each digital template is enabled when said statistics enable switch is enabled, and wherein said computer graphics card provides the at least one transformed template to a frame buffer included in the computer graphics card when said statistics enable switch is disabled; and

a 3D graphics rendering statistical compare processor included in the computer graphics card that accumulates information for each digital template; and

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~~a compare processor that simultaneously~~ and statistically compares and matches images associated with the templates for tracking the templates based on the accumulated information <u>when said statistics enable switch is enabled</u>.

10 (Currently Amended).   The system for tracking digital templates of claim 9, wherein the ~~compare processor~~ <u>computer graphics card further</u> comprises an address generator that generates addresses for the template and the image that are to be compared.

11 (Previously Amended). The system for tracking digital templates of claim 10, wherein the addresses reflect transformations, including combinations of rotations, scales and perspective transforms of the template or image.

12 (Previously Amended). The system for tracking digital templates of claim 10, wherein the addresses serve as input to filtering functions that read from the images to be compared and generate color values.

13 (Currently Amended).   The system for tracking digital templates of claim 9, wherein the template comprises a group of pixels of the image and wherein the ~~compare processor comprises~~ <u>computer graphics card further includes</u> an acceptance tester preprogrammed to decide whether to allow a pixel of the template to contribute to the statistics.

14 (Currently Amended).   The system for tracking digital templates of claim 13, wherein if the pixel is permitted to contribute, the color values are sent to ~~a statistical/comparison device~~ <u>the statistical compare processor</u> for statistical analyses and comparison processing.

15 (Currently Amended).   The system for tracking digital templates of claim 14, wherein the ~~statistical/comparison device~~ statistical compare processor contains variables that are updated for each pixel based on the input color values <u>of each pixel</u>.

16 (Original). The system for tracking digital templates of claim 15, wherein the statistical analyses compares and matches the template to the image by initially defining a function that estimates the similarity between the template and the image.

17 (Original). The system for tracking digital templates of claim 16, wherein the template is located in the image by computing the function at various locations in the image and determining where the function is maximized.

18 (Currently Amended). The system for tracking digital templates of claim 9, wherein the ~~statistical~~ compare processor ~~comprises an alpha-blending device that~~ allows use of ~~a color component~~ pixel alpha values for weighting statistical information used by the compare processor for simultaneously and statistically comparing and matching images associated with the templates for tracking the templates.

19 (Original). The system for tracking digital templates of claim 9, wherein the raster processor renders the template at a plurality of offsets for allowing the raster processor to at least one of determining a desired position for the template and accumulate information to analytically compute a desired update.

20 (Original). The system for tracking digital templates of claim 19, wherein the offsets are fractional perturbations to vertices of the templates.